

U. S. DEPARTMENT OF AGRICULTURE - FOREST SERVICE
CALIFORNIA FOREST AND RANGE EXPERIMENT STATION
Division of Forest Insect Research

WORK PLAN FOR BARK-BEETLE CONTROL
DINGLEY CREEK, YOSEMITE NATIONAL PARK
SPRING 1956

Introduction

The 1955 appraisal survey ^{1/} estimated that 120 lodgepole pines in the Dingley Creek drainage are currently infested with the mountain pine beetle, *Dendroctonus monticolae* Hopk. In order to reduce this infestation and aid in keeping the Tuolumne Meadows area uninfested, applied control has been proposed. This plan details control procedures. The project will be a cooperative one, involving the National Park Service and the Division of Forest Insect Research, California Forest and Range Experiment Station, U. S. Forest Service. The National Park Service will handle the administration of the project and the Experiment Station will furnish technical assistance.

Location

Dingley Creek is one of the uppermost tributaries of the Tuolumne River. The infested area lies in its headwaters, between the Young's Lake trail and the Dog Lake trail, some two miles north of Tuolumne Meadows. It covers approximately 500 acres. The terrain is relatively flat and the timber is an open, nearly pure stand of lodgepole pine. Most of the infested trees are 24 inches in diameter and below. Because of the closeness of the infested area to Tuolumne Meadows, project personnel can probably best be quartered at the Meadows and walk in to the job daily.

Procedure

1. Scouting and spotting.--These phases of the operation will be handled with the cooperation of the Experiment Station representatives. The area will be blocked off by string lines spaced five chains apart, and the infested trees will be marked and numbered with aluminum paint. The infested trees will be plotted on a treating plat, and referenced on the ground by tags hung on the string lines. Numbers and diameters of the infested trees will be recorded. Each treating crew will be furnished with a copy of the treating plat.

2. Treating.--During a preliminary meeting on April 17, 1956, the use of a toxic oil spray control method was agreed upon. However, an emulsion, which could be the most desirable type of spray to use under the circumstances, has not been tested for use against the insect and tree-species combination with which we are dealing. With this in mind, the fell-burn technique appears to be the surest and least expensive control method and is recommended. Trees will be felled, limbed, and bucked if

^{1/} Stevens, Robert E., and Hall, Ralph C. Forest Insect Conditions, Upper Tuolumne River Drainage, Yosemite National Park, Fall 1955 Appraisal Surveys, CF&RES, Berkeley, Calif. Dec. 7, 1955.

necessary. The limbs will then be piled and burned along the infested portion of the bole, killing the beetles beneath the bark. Three 3- or 4-man crews will probably work most efficiently; one crew to do the falling, bucking, and limbing, and two crews to handle the burning. When falling is completed, the falling crew can also aid in the burning.

Ten infested trees will, however, be treated experimentally with an ethylene dibromide water emulsion. Ethylene dibromide (or EDB, as it is commonly known) is the insecticide that has been used widely in California for bark-beetle control, in an oil solution. The emulsion, which is more convenient to use in that use is made of water and therefore less transportation of materials is required, has been used successfully against the Engelmann spruce beetle in Engelmann spruce in the Rocky Mountains. As lodgepole pine is a thin-barked tree species, like Engelmann spruce, the emulsion also appears promising here. This test will be detailed in a separate plan.

Timing

The project should get under way as soon as it is possible to get in to Tuolumne Meadows. Scouting and spotting will precede treating by about 4 days, and materials and equipment for treating can be taken into the area on the last day or two of the spotting.

Materials and Equipment

For three treating crews, the following should be supplied by the Park Service:

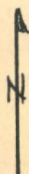
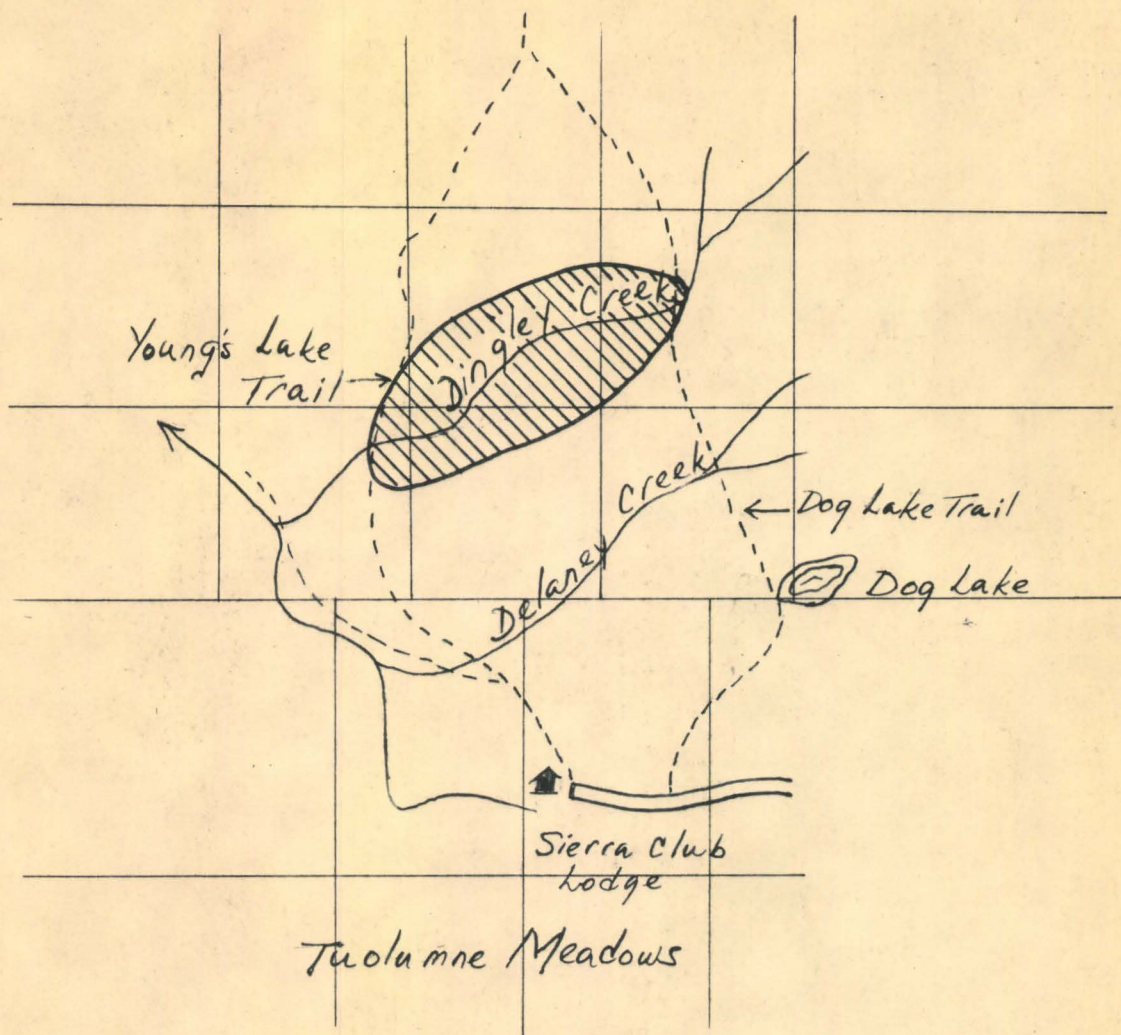
- 2 chain saws
- 3 axes, DB
- 2 sledges and wedges
- 3 shovels
- 4 peavies
- 4 log carriers
- 6 jeep cans (for emulsion spray test),
- 2 jeep can nozzles
- 15 gallons diesel oil (for emulsion spray test)

The Experiment Station will supply the following:

- 1 compass
- 1 case aluminum paint in pressurized cans
- 2 rolls string
- 1 cruiser's axe
- 1 tatum, letter size
- 1 tatum, small size
- Supply of spotting records, treating plats, pencils, carbon paper, etc.
- Other equipment and materials for emulsion spray test

Evaluation of Results

A survey of the Upper Tuolumne area will be made in early fall, to check on the effectiveness of the Dingley Creek control job and to reevaluate the overall mountain pine beetle situation.



Dingley Creek Infestation
Yosemite National Park, Calif.
May 1956

Scale - 1 inch equals 1 mile